

Remarks

Response to Office Action

Claims 1-23 are rejected under 35 U.S.C. 102(e) as being unpatentable by Shinagawa et al. (US patent no. 6,323,863).

Re claim 1, Shinagawa discloses a computer system operation method for use with a CAD system in modeling objects, method providing a means for identifying geometric cells of a model, (col. 1, lines 7-25; col. 20, lines 6-26; col. 7, lines 40-67; fig. 1)

Amended claim 1 recites a method for use with a CAD system in modeling objects. The method providing a means for identifying geometric cells of a model, where each of said geometric cells comprising data defining a geometric feature of the model that is associated with said geometric cell, and identification data. The method includes receiving input comprising one or more constraints relating to geometric cell information; for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint; and generating a list of cells meeting the requirements of the constraints.

US Patent 6,323,863 to Shinagawa does not teach or suggest the invention recited by claim 1. The Examiner, in his comments, equates the claimed “geometric cell” to Shingagawa’s disclosure of a polygon. The two are not the same. To prevent further confusion, claim 1 of the present invention has been amended to further clarify that the claimed “cell” comprises data defining a geometric feature of the model that is associated with said geometric cell and identification data. Shingawa’s polygon’s do not define geometric features, but rather are used to express those features. An example of a defined geometric feature is, for example, data identifying the feature as a sphere having a particular radius. Thus, in one embodiment, the claimed geometric cells of the present invention would include, e.g., data defining the feature as a sphere and data specifying the radius. When that sphere is expressed (i.e., displayed on a CRT display), the modeling software may express the feature as a group of interconnected polygons (i.e., the polygons disclosed by Shingawa). See also, application page 1, paragraph 2, describing the claimed geometric cells as “cells of the geometrical modeller”. However, the underlying definition remains that of a “sphere” rather than that of a polygon.

the method comprising receiving input comprising one or more constraints relating to cell information (figs. 1, 18-element 2, and 30-element 21);

The Examiner, in his comments, further asserts that Figs. 1, 18-element 2, and Fig.30-element 21 of Shingawa disclose receiving input comprising one or more constraints relating to cell information. The undersigned does not understand how the Examiner has reached this conclusion.

The undersigned wishes to call to the Examiner's attention the relevant requirements of the Manual of Patent Examining Procedure. As required by MPEP § 706.07, ground for rejection "must be clearly developed to such an extent that applicant may readily judge the advisability of an appeal." As required by MPEP § 707.07(d), when rejecting a claim for lack of novelty, the Examiner must fully and clearly state the grounds of rejection. Further, "where the applicant traverses any rejections, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it" (MPEP § 707.07(f)).

With the foregoing in mind, and in consideration of the amended claim 1's clarification of "geometric cell" the undersigned respectfully requests that the Examiner more fully and completely state the grounds of rejection for the above-referenced claim element. For example, what does Shingawa disclose as a "constraint related to cell information" that is received from a user?

for each constraint, determining whether the cell meets the requirement of the constraint (figs 7 and 18 -element 3 is the determined unit that determines if the cell meets the requirement of the constraint in programming procedure of figure 7);

The Examiner, in his comments, asserts that Shinagawa teaches: for each constraint, the method comprises the step of determining whether the cell meets the requirement of the constraint (disclosed Fig.7 and 18 with the element 3).

Applicant respectfully disagrees. What the cited section of Shinagawa teaches is a particular use of a "Morse" function (see, e.g., "element 3 ...determines a Morse function defined on the obtained polygon data" (column 17, lines 8-10)). The undersigned understands a Morse function to be a function for which all critical points are nondegenerate and all critical levels are different. This has nothing to do with the

recitation of amended claim 1 which states “for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint”.

If the Examiner continues to view Shingawa’s teachings regarding Morse function as relevant to the claim 1 recitation that “for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint”, then the undersigned respectfully request that the Examiner provide an explanation that is “clearly developed to such an extent that applicant may readily judge the advisability of an appeal.” MPEP § 707.07(d).

generating a list of cells meeting the requirements of the constraints (col. 8, lines 1-22; col. 9, lines 13-46; col. 10, lines 5-13-list of array consisting of a list of cells).

Applicant does not understand how the cited disclosure of Shingawa teaches or suggest “generating a list of geometric cells meeting the requirements of the constraints” as recited by claim 1. If the Examiner continues to view Shingawa as relevant, then further explanation of the relevance is respectfully requested.

For at least the reasons stated above, the undersigned believes that claim 1 is patentable over the teachings of Shinagawa. Allowance of claim 1 is respectfully requested.

Re claim 2, Shinagawa teaches the computer system operation method wherein the constraints are chosen from a group comprising constraints relating to cell dimension constraints relating to the topology of a cell (col.20, lines 6-26); constraints relating to the history of the model evolution (col.9, lines 13-46-the array of parent discloses the history of the model evolution); constraints relating to specific attributes of a cell (col. 22, line 51 to col. 23, line 6-parameters correspond to attributes); and constraints relating to geometrical indications of a cell (figs 5-9).

Claim 2 depends from claim 1 and is patentable for at least the same reasons stated with respect to claim 1.

Re claim 3, the limitations of claim 3 are identical to claim 1 above except for the limitations further discussed below. Therefore, claim 3 is treated the same as discussed with respect to claim 1 above. Shinagawa teaches a CAD/CAM apparatus comprising (col. 1, lines 7-25), an input device (fig. 18-element 2); a central processing unit (col. 1, lines 40-55); and a display device (fig. 30-element 43).

Claim 3 recites incorporates the subject matter of claim 1 and is patentable for at least the same reasons stated with respect to claim 1.

Re claims 4, 6, 8, 10, 12, 14, 16-17, 20, and 22, the limitations of claims 4, 6, 8, 10, 12, 14, 16-17, 20, and 22 are identical to claim 2 above. Therefore, claim 4, 6, 8, 10, 12, 14, 16-17, 20, and 22 are treated the same as discussed with respect to claim 2 above.

The undersigned respectfully disagrees that the limitations of claims 4, 6, 8, 10, 12, 14, 16-17, 20, and 22 are identical to claim 2, and this rejection is respectfully traversed. As explained below, with respect to the Examiner's rejection of claims 5, 7, 9, 11, 13, 15, 18-19, 21, and 23, each of claims 9, 11, 13, 15, 19, 21, and 23 include claim recitations that are not found in claim 1. Substantially similar claim recitations are lacking from claims 10, 12, 14, 16-17, 20, and 22. Furthermore, and contrary to the Examiner's suggestion, because the above-identified claims are not "identical to claim 2 above", the Examiner's rejection of the above-referenced claims is improper in light of MPEP requirements that the Examiner's rejection be fully and clearly stated. For at least the reasons stated below, the undersigned respectfully requests that the Examiner state fully and completely the grounds of rejection for each of the above-referenced claims or withdraw the rejection of these claims.

Re claims 5, 7, 9, 11, 13, 15, 18-19, 21, and 23, the limitations of claims 5, 7, 9, 11, 13, 15, 18-19, 21, and 23 are identical to claim 1 above. Therefore, claim 5, 7, 9, 11, 13, 15, 18-19, 21, and 23 are treated the same as discussed with respect to claim 1 above.

The undersigned respectfully disagrees that the limitations of claims 5, 7, 9, 11, 13, 15, 18-19, 21, and 23 are identical to claim 1.

For example:

- In claim 9 only the claim preamble and the claim recitation "a) receiving input comprising one or more constraints relating to cell information" can be found in claim 1. The remainder of claim 9 is different from what is in claim 1. Similarly,

claims 11, 13, and 15 each include recitations similar in substance to those found in claim 9 and, like claim 9, each include claim recitations substantially different from that of claim 1.

- Claim 19, and 21 each recite “receiving textual input specifying one or more pre-defined geometric parts, and the location and size of such parts;” and this recitation, among others, is not found in claim 1.
- Claim 23 recites “creating a set of scripting rules ...”, “receiving a user script input ...”, “interpreting said user input for translating ...” and “selecting the cells that meet all of the described characteristics ...”. Not even a single one of these is recited by claim 1.

The foregoing are just some of the examples of elements found in the referenced claims that are not found in claim 1 (and are believed to be lacking in the cited prior art). Thus, contrary to the Examiner’s suggestion, the above-identified claims are not “identical to claim 1”, and the Examiner’s rejection of the above-referenced claims is improper in light of MPEP requirements that the Examiner’s rejection be fully and clearly stated.

For at least the reasons stated above, the undersigned respectfully requests that the Examiner either (i) issue a new non-final office action fully conforming to the MPEP requirement and fully and completely stating the grounds of rejection for each of the above-referenced claims or (ii) withdraw the rejection of these claims.

ADDITIONAL REMARKS

Certain of the claims have been amended to recite the term “declarative syntax”. The undersigned notes that the term “declarative syntax” does not appear in the application. The undersigned believes it would be generally understood to refer to the description found on page 4 lines 3-6 of the filed application as a syntax “capable of being declared by a user”. If the Examiner feels that the term “declarative syntax” would

constitute new matter, the undersigned would welcome a call from the Examiner and to discuss an alternate term acceptable to the Examiner.

CONCLUSIONS

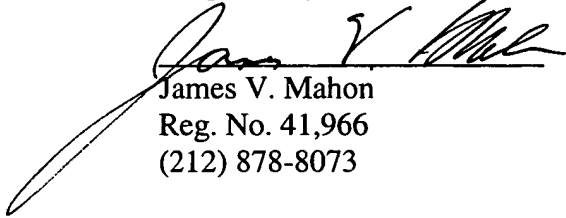
Claims 1-25 are now pending and are believed to be in condition for allowance.

No new matter has been added.

Please apply any credits or excess charges to our deposit account number 50-0521.

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Respectfully submitted,


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